
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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MAGNESIUM IN THE FIRST QUARTER 1997

Domestic primary magnesium production in the first quarter of 1997 was 30,000 metric tons, about 3% lower than production in the fourth quarter 1996, according to the U.S. Geological Survey. Producers' shipments in the first quarter 1997 were 31,500 tons, and inventories decreased to 15,500 tons.

Magnesium exports for the first 2 months of 1997 were 5%

greater than those in the same period of 1996. Imports of magnesium were 62% higher than those in the first 2 months of 1996; most of the difference resulted from an increase in imports of magnesium alloys.

Primary magnesium prices continued downward as they have since the beginning of 1996. Quoted magnesium prices are shown in the following table.

	Units	Beginning of quarter	End of quarter
Metals Week U.S. spot Western	Dollars per pound	\$1.70-\$1.80	\$1.51-\$1.63
Metals Week U.S. spot dealer import	do.	1.43-1.48	1.26-1.37
Metals Week European free market	Dollars per metric ton	2,600-2,700	2,450-2,500
Metal Bulletin free market	do.	2,400-2,650	2,300-2,500

The International Trade Administration (ITA) continued its reviews of duties on magnesium from Canada. In March, a final countervailing duty on pure and alloy magnesium from Canada was established at 9.86% ad valorem for the period December 6, 1991, to December 31, 1992, for Norsk Hydro Canada Inc. (U.S. Department of Commerce, 1997b). In April, the ITA established a final countervailing duty of 4.48% ad valorem for Norsk Hydro for the period January 1, 1994, to December 31, 1994 (U.S. Department of Commerce, 1997c). Preliminary results of an administrative review of the antidumping duty on pure magnesium from Canada indicated that Norsk Hydro did not have any U.S. sales below the normal value, so the duty was established at 0% ad valorem for the period August 1, 1995, to July 31, 1996. The final review was scheduled to be completed no later than 120 days after publication of the preliminary results (U.S. Department of Commerce, 1997d).

ITA also provided an opportunity to request a review of

antidumping duties on pure magnesium from China, Russia, and Ukraine. The period under review was May 1, 1996, to April 30, 1997 (U.S. Department of Commerce, 1997a).

In March, Magnolia Metallurgy Inc. cast its first magnesium ingot at its new pilot plant in Salaberry-de-Valleyfield, Quebec, Canada. This was the first magnesium recovered from the nontraditional source of serpentinite residues from asbestos mining. Construction of a commercial plant is scheduled to begin in April 1998, and annual production capacity at the facility will be 58,000 tons when it is fully operational (Platt's Metals Week, 1997b).

By the end of April, Dead Sea Magnesium was operating 11 of its 60 electrolytic cells at its new primary magnesium plant in Sdom, and the company expected to produce 10,000 tons of magnesium in 1997. By December, the plant was expected to operating at 80% of its 27,500-ton-per-year capacity (Platt's Metals Week, 1997a).

Solikamsk Magnesium Works (SMW) commissioned a new magnesium granule plant in April in Russia. The new plant, a joint venture between SMW and German powder producer ALAMET GmbH, has a design capacity of 2,000 tons per year. Magnesium from the plant will be used for steel desulfurization in Russia. Construction of second and third stages, to increase production capacity to 6,000 to 8,000 tons per year is dependent upon installation of desulfurizing equipment at some of the Russian steel producers (Platt's Metals Week, 1997c). Also in April, SMW began shipping magnesium to General Motors Corp. (GM) as part of a 5-year, \$90 million contract that the companies signed at the end of 1996.

Icelandic Magnesium Co. announced that its feasibility study confirmed the technical feasibility of constructing a 50,000-ton-per-year primary magnesium plant in Reykjanes, Iceland. New technology that produces no byproduct chlorine and is adapted to Icelandic conditions is expected to be supplied by a consortium of companies from the Former Soviet Union. A decision to build a commercial plant is expected by yearend 1997 (Metal Bulletin, 1997).

GM announced plans to convert several automotive components to magnesium, while Ford Motor Co. is discontinuing some of its automotive magnesium applications. GM finalized plans to convert transfer cases in the 1998 models of some small pickup trucks and 4-wheel drive sports utility vehicles from aluminum to magnesium. The transfer cases for GM will be manufactured by New Venture Gear Inc., and the application is expected to consume about 1,300 tons of magnesium alloy AZ91 annually (Wrigley, 1997b). GM also approved a 2-piece magnesium instrument panel for the 1999 models of its Cadillac DeVille. This new component, along with other magnesium parts scheduled to be installed in this model, will bring total annual magnesium consumption for the Cadillac DeVille to 1,250 tons (Wrigley, 1997c). Canada-based Trimag Co. was selected as the supplier for GM's magnesium instrument panel support casting for its 2001 model sports utility vehicles. Each magnesium component will weigh about 3.6 kilograms, and annual consumption for this application was estimated to be about 1,700 tons of alloy AM60 (Wrigley, 1997a).

Ford announced that it would convert most of the transfer

cases in its 4-wheel drive vehicles from magnesium to aluminum, beginning in mid-1998. Cost was cited as the principal reason for the switch; list price for magnesium alloy AZ91 was about twice the price of secondary aluminum alloy ingot A380.1. These transfer cases were estimated to account for about 20% of Ford's total magnesium consumption, or about 3,200 tons annually (Wrigley, 1997d).

Diemakers Inc. completed installation of two 1,200-ton cold-chamber diecasting machines at its new Hanibal, MO, plant. One of the parts that these machines will be used to cast is a 20-inch digital satellite system television receiver (American Metal Market, 1997).

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- 1997c, Magnesium panel gets GM go-ahead: American Metal Market, v. 105, no. 66, April 7, 1997, p. 1.
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TABLE 1
U.S. IMPORTS FOR CONSUMPTION AND EXPORTS OF MAGNESIUM 1/

(Metric tons)

	1996	1997		
		Jan.	Feb.	Jan.-Feb.
Imports:				
Metal	17,300	1,190	996	2,190
Waste and scrap	3,340	484	188	672
Alloys (magnesium content)	24,600	3,310	3,690	7,000
Sheet, tubing, ribbons, wire, powder, and other (magnesium content)	1,280	61	11	72
Total	46,600	5,040	4,880	9,930
Exports:				
Metal	17,000	1,200	1,520	2,720
Waste and scrap	8,500	906	1,060	1,970
Alloys (gross weight)	6,970	816	458	1,280
Sheet, tubing, ribbons, wire, powder, and other (gross weight)	7,970	507	194	701
Total	40,500	3,430	3,230	6,660

1/ Data are rounded to three significant digits; may not add to totals shown.

Source: Bureau of the Census.

